

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A priming mixture for small arms ammunition comprising:
a primary explosive selected from the group consisting of: trinitroresorcinol, mercury fulminate, lead azide, lead styphnate, silver azide, diazodinitrophenol, tetrazene, potassium dinitrobenzofuroxane, heavy metal salts of 5-nitrotetrazole, and any combination thereof; and
a non-hygroscopic, non-corrosive oxidizer system comprising bismuth oxide, wherein the bismuth oxide comprises at least 15% by weight of the priming mixture.
2. Canceled.
3. (previously presented) The priming mixture of claim 1, wherein the oxidizer system further comprises a secondary oxidizer selected from potassium nitrate, zinc peroxide, manganese dioxide, molybdenum trioxide, strontium nitrate, strontium peroxide, tin oxide, iron oxide, or combinations thereof.
4. (original) The priming mixture of claim 1, and further comprising a gas producing agent.
5. (previously presented) The priming mixture of claim 4, wherein the gas producing agent is selected from pentaerythritol tetrinitrate, trinitrotoluene, or combinations thereof.
6. (original) The priming mixture of claim 1, and further comprising a reducing agent.

7. (previously presented) The priming mixture of claim 6, wherein the reducing agent is selected from aluminum, boron, calcium silicide, magnesium, magnesium-aluminum alloy, silicon, titanium, tungsten, zirconium, nitrocellulose, or combinations thereof.
8. (original) The priming mixture of claim 1, wherein the priming mixture is substantially free of lead.
9. (original) The priming mixture of claim 1, wherein the priming mixture is non-toxic.
10. (original) A small arms ammunition cartridge comprising:
a case; and,
the priming mixture of claim 1 disposed in the case.
11. (currently amended) A priming mixture for small arms ammunition comprising:
about 20% to about 70% by weight of a primary explosive selected from the group consisting of: trinitroresorcinol, mercury fulminate, lead azide, lead styphnate, silver azide, diazodinitrophenol, tetrazene, potassium dinitrobenzofuroxane, heavy metal salts of 5-nitrotetrazole, and any combination thereof;
about 10% to about 70% by weight of an oxidizer system comprising bismuth oxide, wherein the bismuth oxide comprises at least 15% by weight of the priming mixture;
about 0% to about 25% by weight of a gas producing agent;
about 0% to about 20% by weight of a sensitizer; and,
about 0% to about 20% by weight of a reducing agent.
12. (original) The priming mixture of claim 11, wherein the priming mixture comprises about 25% to about 50% by weight of the primary explosive.
13. (original) The priming mixture of claim 11, wherein the priming mixture comprises about 25% to about 55% by weight of the oxidizer system.

14. (original) The priming mixture of claim 11, wherein the priming mixture comprises about 5% to about 25% by weight of the gas producing agent.

15. (original) The priming mixture of claim 11, wherein the priming mixture comprises about 5% to about 20% by weight of the sensitizer.

16. (original) The priming mixture of claim 11, wherein the priming mixture comprises about 5% to about 20% by weight of the reducing agent.

17. Canceled.

18. (previously presented) The priming mixture of claim 11, wherein the oxidizer system further comprises a secondary oxidizer selected from potassium nitrate, zinc peroxide, manganese dioxide, molybdenum trioxide, strontium nitrate, strontium peroxide, barium nitrate, tin oxide, iron oxide, or combinations thereof.

19. (previously presented) The priming mixture of claim 11, wherein the oxidizer system is non-hygroscopic.

20. (original) The priming mixture of claim 11, wherein the priming mixture is substantially free of lead.

21. (original) The priming mixture of claim 11, wherein the priming mixture is non-toxic.

22. (original) A small arms ammunition round comprising:
a priming mixture as disclosed in claim 11;
a propellant adapted to be initiated by the priming mixture; and
a projectile.

23-31. Canceled.

32. (currently amended) A priming mixture for small arms ammunition comprising:
about 25% to about 50% by weight of a primary explosive selected from the group consisting of: trinitroresorcinol, mercury fulminate, lead azide, lead styphnate, silver azide, diazodinitrophenol, tetrazene, potassium dinitrobenzofuroxane, heavy metal salts of 5-nitrotetrazole, and any combination thereof; and,

about 25% to about 55% by weight of an oxidizer system comprising bismuth oxide, wherein the bismuth oxide comprises at least 15% by weight of the priming mixture.

33. (original) The priming mixture of claim 32, further comprising about 5% to about 25% by weight of a gas producing agent.

34. (previously presented) The priming mixture of claim 33, wherein the gas producing agent is selected from pentaerythritol tetranitrate, trinitrotoluene, or combinations thereof.

35. (original) The priming mixture of claim 32, further comprising about 5% to about 20% by weight of a sensitizer.

36. (original) The priming mixture of claim 35, wherein the oxidizer system is non-corrosive and non-hygroscopic.

37. (original) The priming mixture of claim 32, further comprising about 5% to about 20% by weight of the reducing agent.

38. (previously presented) The priming mixture of claim 37, wherein the reducing agent is selected from aluminum, boron, calcium silicide, magnesium, magnesium-aluminum alloy, silicon, titanium, tungsten, zirconium, or combinations thereof.

39. Canceled.

40. (previously presented) The priming mixture of claim 32, wherein the oxidizer system further comprises an oxidizer selected from potassium nitrate, zinc peroxide, manganese dioxide, molybdenum trioxide, strontium nitrate, strontium peroxide, barium nitrate, tin oxide, iron oxide, or combinations thereof.

41. (original) The priming mixture of claim 32, wherein the priming mixture is substantially free of lead.

42-43. Canceled.

44. (previously presented) The priming mixture of claim 1, further comprising a sensitizer.

45. (previously presented) The priming mixture of claim 44, wherein the sensitizer is tetrazene.